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SCHOOL DISTRICT OF PHILADELPHIA, DEPARTMENT OF SUPERINTENDENCE

Bulletin 583

Division of
Educational
Research

DISTRIBUTION OF PHILADELPHIA MENTAL ABILITY TEST RECORDS OF 10A PUPILS ON ROLL MARCH 31, 1960

SENIOR HIGH AND VOCATIONAL-TECHNICAL SCHOOLS

September 1, 1960

Philadelphia

IQ's were available for 7763 pupils, or 97 percent of the pupils enrolled in grade 10A as of March 31, 1960. In a similar study in 1955, IQ's were available for only 92 percent of the pupils. The greater availability of records in the mental ability test and in other tests should do much to improve the extent to which teachers can become acquainted with the needs of pupils.

Table 1 shows the distributions of IQ by curriculum of those senior high school pupils who entered grade 10A in February. Table 2 shows the distributions of IQ of those pupils who are repeating grade 10A. The median IQ for all curriculums for pupils repeating grade 10A is 9[illegible]. The median IQ for pupils not repeating grade 10A is 98.

Table 3 shows the distribution of all 10A senior high school IQ's by curriculum. While only 37 percent of the pupils are enrolled in college preparatory curriculums (Academic, Art, Commercial A, Home Economics, Industrial Arts, and Music) they make up 88 percent of the pupils with IQ's of 110 and above, the IQ range from which most of the college students will be drawn, and only 7 percent of the pupils with IQ's below 90. Of the pupils enrolled in college preparatory courses, 48 percent have IQ's of 110 and above and 6 percent have IQ's below 90. Of the pupils enrolled in non-college preparatory classes, 4 percent have IQ's of 110 and above and 46 percent have IQ's below 90.

The distributions of IQ in the three largest college preparatory curriculum groups show the following percents of pupils with IQ's of 110 and above: Academic, 56 percent; Commercial A, 23 percent; Industrial Arts, 26 percent. The percents of pupils with IQ's below 90 are: Academic, 2 percent; Commercial A, 10 percent; Industrial Arts, 19 percent.

A study of the IQ distributions of pupils who are enrolled in college preparatory courses leads one to believe that for many of these pupils college preparatory courses will not serve a useful purpose. To meet the needs of these pupils, the 10A instruction would have to be given on a definitely non-college preparatory level.

Individual schools should make a study of the IQ distributions in the curriculums taught within the school. For example, there are several senior high schools with comparatively few 10A academic pupils with IQ's of 110 or above. Seven schools have only from two to ten academic pupils in grade 10A who have IQ's as high as 110. These schools are faced with a complicated problem if they are to offer any wide range of academic subjects on the college preparatory level.

From Table 3 we can determine that only 23 percent of the pupils rostered in the Commercial A curriculum (a course designed to prepare for college work in the field of business administration) have IQ's of 110 and above.

Presumably, boys rostered in the Industrial Arts Curriculum intend to enroll in engineering courses in college. Success in engineering courses requires a high degree of mental ability. Table 3 shows that only 26 percent of these boys have IQ's of 110 and above. Nineteen percent have IQ's below 90.

Table 4 shows the IQ distribution of vocational-technical pupils in each curriculum for which the IQ's of twenty or more 10A pupils were available. Despite the fact that the median IQ is two points lower than for the senior high school pupils, only 29 percent of the vocational-technical pupils have IQ's below 90 as compared with 31 percent for senior high school pupils. It appears that the screening that is involved in the selection of applicants for vocational-technical schools tends to reduce the proportion of low IQ pupils.

A study of the 373 pupils dropped from roll (under D3, D4, and D5) between February 1 and March 31, 1960, shows that the median IQ of the drop-outs from senior high school and vocational-technical schools is 87. This compares with a median of 93 for the pupils who are repeating the work of grade 10A and 98 for the pupils who are in grade 10A for the first time.

Table 5 shows the IQ distribution for pupils with IQ's below 90 who were on roll in senior high schools on February 1, 1960. There were a total of 2343 such pupils. Of this total, 1456 were enrolled in grade 10A for the first time, 684 were repeating grade 10A in March, and 203 had dropped out of school in the two months from February 1 to March 31. The largest numbers of these relatively low IQ pupils were enrolled in the commercial B or clerical, the modified or common learnings, and the trade preparatory curriculums.

At the bottom of the table are shown the proportions of pupils in these low IQ groups who are repeating work of grade 10A. For the 147 pupils enrolled in the college preparatory curriculum the proportion of repeating pupils is 27 percent. The proportion rises to 33 percent for the commercial B or the commercial-clerical curriculums, 37 percent for the modified or the common learnings curriculums, and 39 percent for the trade preparatory curriculum. A study of the percents shown in Table 5 would seem to indicate that the non-college preparatory curriculums do not seem to offer to these relatively low IQ pupils subjects with which they are able or willing to cope. For example, in the general curriculum, only 44 percent of these low IQ pupils are in grade 10A for the first time. Probably at the end of the term a majority of this 44 percent will not be promoted to grade 10B. While it is reasonable to suppose that adjustments to the needs of these low ability pupils cannot so easily be made in college preparatory or commercial courses, it would seem that such adjustments could be made in the general, the occupational, the home making, and the modified curriculums. However, the degree of adjustment to pupil ability and needs in these four curriculums seems to be less than that in college preparatory or commercial curriculums.

The IQ cannot be taken as the sole criterion of ability to succeed in college or in other specialized activities requiring a high degree of mental skill. In determining individual placement or in determining the type of work best fitted for the individual pupil, the IQ score should never be used alone. However, the percent of pupils with high IQ's gives a fairly accurate estimate of the percent of pupils in a given school who will be likely to succeed with college work or with work in certain other areas, e.g., stenography.

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TABLE 1

DISTRIBUTION OF PHILADELPHIA MENTAL ABILITY TEST RECORDS BY CURRICULUMS OF 10A PUPILS ON ROLL MARCH 31, 1960, WHO ARE NOT REPEATING GRADE 10A

SENIOR HIGH SCHOOLS

9A Phila. Mental Ability IQ	Academic	Art	Commercial "A"	Home Economics	Industrial Arts	Music	Commercial "B" Com. Clerical	Home Making	Trade Preparatory	General	School Work	Modified (Common Learnings)	Occupational	Total All Curriculums	9A Phila. Mental Ability IQ
140+	3													3	140+
130-139	61		1		1		1							64	130-139
120-129	310	4	13		10	1	13		2	1				354	120-129
110-119	576	14	51	3	50	5	69	1	19	7				795	110-119
100-109	456	13	112		70	5	354	2	107	61		2		1182	100-109
90-99	191	8	67	3	45		581	5	210	86		21		1217	90-99
80-89	31	2	21	4	25		398	10	169	75		97	6	838	80-89
70-79	4	4	5		7		86	6	120	42		235	3	512	70-79
Below 70	1	1	1		2		10	3	25	6		53	4	106	Below 70
Total	1633	46	271	10	210	11	1512	27	652	278		408	13	5071	
Median	112	106	103	93	103	111	94	84	90	91		76	78	98	

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TABLE 2

DISTRIBUTION OF PHILADELPHIA MENTAL ABILITY TEST RECORDS BY CURRICULUMS OF 10A PUPILS ON ROLL MARCH 31, 1960, WHO ARE REPEATING GRADE 10A

SENIOR HIGH SCHOOLS

9A Phila. Mental Ability IQ	Academic	Art	Commercial "A"	Home Economics	Industrial Arts	Music	Commercial "B" Com. Clerical	Home Making	Trade Preparatory	General	School Work	Modified (Common Learnings)	Occupational	Total All Curriculums	9A Phila. Mental Ability IQ
140+															140+
130-139	6									1				7	130-139
120-129	24				1		2			4				31	120-129
110-119	68	2	4		7		20		11	13				125	110-119
100-109	91	1	14		11		128	2	42	63	2	4	1	359	100-109
90-99	49		11	4	20	2	247	3	86	113	1	32	8	576	90-99
80-89	9		3	1	8		170	7	82	75		59	5	419	80-89
70-79		2	1		7		35	4	67	31		87	3	237	70-79
Below 70					2		1	1	3	7		12	2	28	Below 70
Total	247	5	33	5	56	2	603	17	291	307	3	194	19	1782	
Median	107	105	101	93	95	95	93	85	89	93	102	79	89	93	

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TABLE 3

DISTRIBUTION OF PHILADELPHIA MENTAL ABILITY TEST RECORDS OF ALL 10A PUPILS ON ROLL MARCH 31, 1960, BY CURRICULUMS

SENIOR HIGH SCHOOLS

9A Phila. Mental Ability IQ	Academic	Art	Commercial "A"	Home Economics	Industrial Arts	Music	Commercial "B" Com. Clerical	Home Making	Trade Preparatory	General	School Work	Modified (Common Learnings)	Occupational	Total All Curriculums	9A Phila. Mental Ability IQ
140+	3													3	140+
130-139	67		1		1		1			1				71	130-139
120-129	334	4	13		11	1	15		2	5				385	120-129
110-119	644	16	55	3	57	5	89	1	30	20				920	110-119
100-109	547	14	126		81	5	482	4	149	124	2	6	1	1541	100-109
90-99	240	8	78	7	65	2	828	8	296	199	1	53	8	1793	90-99
80-89	40	2	24	5	33		568	17	251	150		156	11	1257	80-89
70-79	4	6	6		14		121	10	187	73		322	6	749	70-79
Below 70	1	1	1		4		11	4	28	13		65	6	134	Below 70
Total	1880	51	304	15	266	13	2115	44	943	585	3	602	32	6853	
Median	111	106	103	93	102	109.	94	84	90	92	92	77	83	97	

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TABLE 4

DISTRIBUTION OF PHILADELPHIA MENTAL ABILITY TEST RECORDS BY CURRICULUMS OF 10A PUPILS ON ROLL MARCH 31, 1960

VOCATIONAL-TECHNICAL SCHOOLS

9A Phila. Mental Ability IQ	Automobile Maintenance	Cabinet Making	Carpentry	Commercial Art	Drafting-Architectural & Mechanical	Dressmaking	Electricity Industrial	Electronics	Machine Shop Practice	Printing	Restaurant Practice	Sheet Metal Work	Tailoring	Welding	Home Economics Vocational	Business Education	Other Curriculums	Total All Curriculums	9A Phila Mental Ability IQ
140+																			140+
130-139																			130-139
120-129	2				1		2			1						1		7	120-129
110-119		1	2	3	3		1	4	1	3					2	15	7	42	110-119
100-109	26	8	4	6	9	2	17	12	11	6	3	4	1	8	6	67	33	223	100-109
90-99	52	9	11	17	10	10	17	5	20	12	12	4	9	6	25	98	53	370	90-99
80-89	40	14	6	6	2	13	9		13	2	10	5	4	5	10	14	34	187	80-89
70-79	19	4	4			6			2		1	8	6	3	2	1	20	76	70-79
Below 70										2				1		1	1	5	Below 70
Total	139	36	27	32	25	31	46	21	47	26	26	21	20	23	45	197	148	910	
Median	92	90	93	95	100	87	98	104	94	97	91	85	90	94	94	98	93	95	

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TABLE 5

DISTRIBUTION OF PHILADELPHIA MENTAL ABILITY TEST RECORDS BY CURRICULUMS OF 10A PUPILS ON ROLL FEBRUARY 1, 1960, WITH IQ'S BELOW 90

SENIOR HIGH SCHOOLS

9A Phila. Mental Ability IQ	Academic	Art	Commercial "A"	Home Economics	Industrial Arts	Total College Preparatory	Commercial "B" Com. Clerical	Home Making	Trade Preparatory	General	Modified (Common Learnings)	Occupational	Total All Curriculums	9A Phila. Mental Ability IQ
140+														140+
130-139														130-139
120-129														120-129
110-119														110-119
100-109														100-109
90-99														90-99
80-89	42	2	25	6	33	108	598	17	279	173	182	12	1369	80-89
70-79	4	7	7		14	32	128	12	205	89	356	7	829	70-79
Below 70	1	1	1		4	7	12	4	30	16	70	6	145	Below 70
Total	47	10	33	6	51	147	738	33	514	278	608	25	2343	
Proportion of pupils who are repeating Grade 10A *						27%	33%	42%	39%	56%	37%	48%	38%	

* Includes 203 pupils dropped by D3, D4 or D5 between February 1 and March 31, most of whom were probably repeating grade 10A.

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